

WHAT IS CLAIMED IS:

1. A display device, comprising:

a plurality of pixel electrodes formed on a substrate;

5 a plurality of first thin film transistors, which are connected to corresponding pixel electrodes among the plurality of pixel electrodes and respectively supply the connected pixel electrodes with a display signal; and

a plurality of second thin film transistors, which configure
10 a driving circuit for driving the plurality of first thin film transistors; wherein,

some or all of the plurality of second thin film transistors have a plurality of channel areas formed in a semiconductor layer subjected to laser annealing respectively, and the plurality of
15 channel areas are electrically connected in parallel to each other and arranged separately.

2. The display device according to claim 1, wherein the plurality of channel areas are separated in a direction of the channel width.

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3. The display device according to claim 2, wherein a distance between the plurality of channel areas is determined that a virtual channel width containing a separated space is larger than a width of a defectively processed area caused in the semiconductor layer
25 during the laser annealing.

4. The display device according to claim 1, wherein the laser

annealing is performed to polycrystallize an amorphous semiconductor layer in order to obtain a polycrystalline semiconductor layer.

5 5. A display device, comprising:

a plurality of pixel electrodes arranged on a substrate;

a plurality of first thin film transistors, which are connected to corresponding pixel electrodes among the plurality of pixel electrodes and respectively supply the connected pixel electrodes with a display signal; and

a plurality of second thin film transistors, which configure a driving circuit for driving the plurality of first thin film transistors; wherein,

some or all of the plurality of second thin film transistors have a plurality of channel areas formed in a semiconductor layer subjected to laser annealing respectively, and the plurality of channel areas are electrically connected in parallel to each other and arranged toward different directions.

20 6. The display device according to claim 5, wherein the plurality of channel areas are arranged so to be orthogonal to each other in a direction of the channel width.

25 7. The display device according to claim 5, wherein the plurality of channel areas are formed in one island semiconductor area.

8. The display device according to claim 5, wherein the plurality

of channel areas are arranged separately to each other.

9. The display device according to claim 5, wherein the laser annealing is performed to polycrystallize an amorphous
5 semiconductor layer in order to obtain a polycrystalline semiconductor layer.

10. A semiconductor device having a plurality of semiconductor elements on a substrate, wherein some or all of the semiconductor
10 elements have a plurality of channel areas which are formed in a semiconductor layer subjected to laser annealing respectively, and the plurality of channel areas are electrically connected in parallel to each other and arranged separately and/or arranged in different directions to each other.

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11. The semiconductor device according to claim 10, wherein a distance between the plurality of channel areas is determined that a virtual channel width containing a separated space is larger than a width of a defectively processed area caused in the semiconductor
20 layer during the laser annealing.

12. The semiconductor device according to claim 10, wherein the laser annealing is performed to polycrystallize an amorphous semiconductor layer in order to obtain a polycrystalline
25 semiconductor layer.